

WHAT IS CLAIMED IS:

1. A composition for microsurfacing of pavement, said composition comprising:

a polymer-modified emulsion asphalt oil;

water;

cement; and

crushed aggregate comprising a first portion and a second portion, said first portion having a first L.A. abrasion resistance, said second portion having a second L.A. abrasion resistance lower than the first L.A. abrasion resistance.

2. A composition according to Claim 1 wherein said crushed aggregate is from at least one of the Burlington-Keokuk limestone formation, the Elsey-Reeds Spring formation, and the Pierson formation.

3. A composition according to Claim 1 wherein said first portion having an L.A. abrasion resistance between about 28 and about 34 percent inclusive, said second portion having an L.A. abrasion resistance between about 21 and about 27 percent inclusive.

4. A composition according to Claim 1 wherein said first portion has an L.A. abrasion resistance between about 30 and about 32 percent inclusive and said second portion has an L.A. abrasion resistance between about 23 and about 25 percent inclusive.

5. A composition according to Claim 1 wherein said first portion has an L.A. abrasion resistance of about 31 percent and said second portion has an L.A. abrasion resistance of about 24 percent.

6. A composition according to Claim 1 wherein said first portion is about two-thirds by weight of said crushed aggregate and said second portion is about one-third by weight of said crushed aggregate.

7. A composition according to Claim 1 wherein said first portion is about one-third by weight of said crushed aggregate and said second portion is about two-thirds by weight of said crushed aggregate.

8. A composition according to Claim 1 wherein said first portion is about one-half by weight of said crushed aggregate and said second portion is about one-half by weight of said crushed aggregate.

9. A composition according to Claim 1 wherein said first portion is between about one-third and about two-thirds by weight of said crushed aggregate.

10. A composition according to Claim 1 wherein said second portion is between about one-third and about two-thirds by weight of said crushed aggregate.

11. A composition according to Claim 1 wherein said crushed aggregate is crushed utilizing an impact crusher.

12. A composition according to Claim 1 wherein said crushed aggregate has a cubicle shape.

13. A composition according to Claim 1 wherein larger stones of said crushed aggregate is embedded about 75 percent by smaller stones of said crushed aggregate.

14. A composition according to Claim 1 wherein 100 percent of said crushed aggregate passes through a three-eighths inch sieve.

15. A composition according to Claim 1 wherein said asphalt oil comprises between about 6 and 9 percent of said composition.

16. A composition according to Claim 1 further comprising a portion of sand.

17. A composition according to Claim 1 wherein said aggregate has a sand equivalent value of at least about 80 percent.

18. A method for microsurfacing a surface comprising:

preparing a crushed aggregate which includes a first portion and a second portion, the first portion having an L.A. abrasion resistance higher than the L.A. abrasion resistance of the second portion of the crushed aggregate, the crushed aggregate having a sand equivalent value of at least 80 percent;

mixing the crushed aggregate with a polymer-modified emulsion asphalt oil, water, and cement; and

applying the mixture to the surface to be microsurfaced.

19. A method according to Claim 18 wherein preparing a crushed aggregate comprises preparing a crushed aggregate from at least one of the Burlington-Keokuk limestone formation, the Elsey-Reeds Spring formation, and the Pierson formation.

20. A method according to Claim 18 wherein preparing a crushed aggregate comprises preparing a crushed aggregate having a cubicle shape.

21. A method according to Claim 18 wherein said applying comprises applying the mixture at a thickness between about $\frac{1}{4}$ inch and about $\frac{3}{8}$ inch inclusive.

22. A method according to Claim 18 wherein said applying comprises applying the mixture at a thickness of about $\frac{1}{4}$ inch minus dense graded material from the mixture.

23. A method according to Claim 18 wherein the first portion has an L.A. abrasion resistance between about 28 and about 34 percent inclusive and a second portion having an L.A. abrasion resistance between about 21 and about 27 percent inclusive.

24. A method according to Claim 18 wherein the first portion has an L.A. abrasion resistance between about 30 and 32 percent inclusive and the second portion having an L.A. abrasion resistance between about 23 and 25 percent inclusive.

25. A method according to Claim 18 wherein the first portion has an L.A. abrasion resistance of about 31 percent and the second portion has an L.A. abrasion resistance of about 24 percent.

26. A method according to Claim 18 wherein the first portion is about two-thirds by weight of the crushed aggregate and the second portion is about one-third by weight of the crushed aggregate.

27. A method according to Claim 18 wherein the first portion is about one-third by weight of the crushed aggregate and the second portion is about two-thirds by weight of the crushed aggregate.

28. A method according to Claim 18 wherein the first portion is about one-half by weight of the crushed aggregate and the second portion is about one-half by weight of the crushed aggregate.

29. A method according to Claim 18 wherein the first portion is between about one-third and about two-thirds by weight of the crushed aggregate.

30. A method according to Claim 18 wherein the second portion is between about one-third and about two-thirds by weight of the crushed aggregate.

31. A method according to Claim 16 further comprising crushing the aggregate utilizing an impact crusher.

32. A crushed aggregate for utilization in microsurfacing of pavement, said crushed aggregate comprising:

a first portion having a first L.A. abrasion resistance; and

a second portion having a second L.A. abrasion resistance, the first L.A. abrasion resistance being higher than the second L.A. abrasion resistance.

33. A crushed aggregate according to Claim 32 wherein said first portion and said second portion are from at least one of the Burlington-Keokuk limestone formation, the Elsey-Reeds Spring formation, and the Pierson formation.

34. A crushed aggregate according to Claim 32 wherein said first portion has an L.A. abrasion resistance between about 28 and about 34 percent inclusive and said second portion has an L.A. abrasion resistance between about 21 and about 27 percent inclusive.

35. A crushed aggregate according to Claim 32 wherein said first portion has an L.A. abrasion resistance between about 30 and about 32 percent inclusive and said second portion has an L.A. abrasion resistance between about 23 and about 25 percent inclusive.

36. A crushed aggregate according to Claim 32 wherein said first portion has an L.A. abrasion resistance of about 31 percent and said second portion has an L.A. abrasion resistance of about 24 percent.

37. A crushed aggregate according to Claim 32 wherein said first portion is about two-thirds by weight of said crushed aggregate and said second portion is about one-third by weight of said crushed aggregate.

38. A crushed aggregate according to Claim 32 wherein said first portion is about one-third by weight of said crushed aggregate and said second portion is about two-thirds by weight of said crushed aggregate.

39. A crushed aggregate according to Claim 32 wherein said first portion is about one-half by weight of said crushed aggregate and said second portion is about one-half by weight of said crushed aggregate.

40. A crushed aggregate according to Claim 32 wherein said first portion is between about one-third and about two-thirds by weight of said crushed aggregate.

41. A crushed aggregate according to Claim 32 wherein said second portion is between about one-third and about two-thirds by weight of said crushed aggregate.

42. A crushed aggregate according to Claim 32 wherein said crushed aggregate has a substantially cubicle shape.

43. A crushed aggregate according to Claim 32 wherein 100 percent of said crushed aggregate passes through a three-eighths inch sieve.

44. A crushed aggregate according to Claim 32 wherein said aggregate has a sand equivalent value of at least 80 percent.

45. A composition for microsurfacing of pavement, said composition comprising:

a polymer-modified emulsion asphalt oil;
water;
cement; and
crushed aggregate from the Burlington-Keokuk limestone formation.

46. A composition for microsurfacing of pavement, said composition comprising:

a polymer-modified emulsion asphalt oil;
water;
cement; and
crushed aggregate from the Elsey-Reeds Spring formation.

47. A composition for microsurfacing of pavement, said composition comprising:

a polymer-modified emulsion asphalt oil;
water;
cement; and

crushed aggregate from the Pierson formation.